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ABSTRACT

This report examines whether a high school curriculum organized around the five "new basics" suggested by the National Commission on Excellence in Education is likely to enhance student achievement. Data from the ETS Growth Study reveals that completion of the core curriculum has sizable effects on senior-year test performance, even when prior levels of test performance are controlled. It is also shown that completing the entire core curriculum enhances test performance beyond the effects of coursework in a particular outcome area alone. Importantly, though, completion of the core is effective only if students perform at relatively high levels in their courses. It is concluded that the new basics can be effective in promoting generic skills in the verbal and quantitative domains. For this, the commission gets high marks. However, it is also the case that the commission has failed to provide a comprehensive stocktaking on the condition of American education. This is discussed in the concluding comments. An appendix shows course categories used to construct the new basics core curriculum. (Author/TE)

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CURRICULUM REFORM AND SCHOOL PERFORMANCE: An Evaluation of the "New Basics"

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This report, prepared by the School Organization Program, examines whether a high school curriculum organized around the "new basics" suggested by the National Commission on Excellence in Education is likely to enhance student achievement.

ABSTRACT

The report of the National Commission on Excellence in Education was quite critical of the performance of American education. A key remedy proposed by the Commission is the imposition of a new high school curriculum, organized around its Five New Basics. In this paper we examine whether the Commission's New Basics are likely to enhance levels of cognitive performance, which is the Commission's central concern. Using data from the ETS Growth Study, we find that completion of the core curriculum has sizable effects on senior year test performance, even when prior levels of test performance are controlled. We also find that completing the entire core curriculum enhances test performance beyond the effects of coursework in a particular outcome area alone. Importantly, though, completion of the core is effective only if students perform at relatively high levels in their courses. We conclude that the New Basics can be effective in promoting generic skills in the verbal and quantitative domains. For this, the Commission gets high marks. However, it also is the case that the Commission has failed to provide a comprehensive stocktaking on the condition of American education. This is discussed in our concluding comments.

CURRICULUM REFORM AND SCHOOL PERFORMANCE: AN EVALUATION OF THE "NEW BASICS"

The resilience of education as an issue in the American political and social agenda is quite remarkable. Although the particular themes that command attention shift about with changing circumstances, it is rare indeed for education to be far from the center of the national debate. During the post-Sputnik fifties, energies were mobilized to redress presumed failures of public schooling in the areas of science and technology. Throughout the sixties and much of the seventies, equity issues were dominant. The preeminent concern during much of that period was to guarantee equal educational opportunities for racial and ethnic minorities. More recently, the focus again has shifted to questions of educational quality, and the agenda for the eighties very much bears the Washington imprint: tuition tax credits, merit pay for teachers and the so-called "New Basics."

This last aspect of the new agenda is most fully developed in the recent report issued by the Secretary of Education's National Commission on Excellence in Education. Entitled "A Nation at Risk: The Imperative of Educational Reform" (1983), the Commission's report is both harsh and blunt in its indictment of the nation's schools. As has been widely publicized, the Report concludes that our system of education has failed to impart the technical skills and knowledge required of the modern era. Declining test scores, high levels of both functional and scientific illiteracy, the proliferation of remedial mathematics courses at the postsecondary level, and modest achievements on the part of the gifted are but some of the symptoms of the malady.

In the Commission's judgment, this situation signals a national crisis, jeopardizing America's position in the international economic order and presaging innumerable personal tragedies as youngsters face the future ill-prepared for the demands that will be made of them. To reverse this slide into mediocrity, the Report calls for wide-ranging curricular reform, the heart of which is embodied in the Report's "Five New Basics":

> "...all students seeking a diploma [should] be required to lay the foundations in the Five New Basics by taking the following curriculum during their four years of high school: (a) 4 years of English, (b) 3 years of mathematics; (c) 3 years of science; (d) 3 years of social studies; and (e) one-half year of computer science. For the college-bound, 2 years of foreign language in high school are highly recommended..."

The Report advances several additional recommendations, such as more vigorously enforcing standards and making more effective use of time, but all these build upon the New Basics.

In the judgment of this Blue Ribbon panel, then, curriculum reform is the most pressing issue on the education agenda. And, the Commission is hardly alone in according such importance to the high school curriculum. This theme is echoed in a recent report of the College Board as part of its Project EQuality (1983) and in the Carnegie Commission's much heralded report on secondary education (Boyer, 1983), to mention but two examples.

In light of such rare convergence of opinion, a cautionary note probably is in order: we simply do not know whether the Commission's New Basics are likely to work.

There is little research altogether on the issue of curricular effectiveness at the secondary level, and that which is available is not at all clear or consistent in its implications. Our own studies on high school tracking are illustrative of the situation.

Early studies of curriculum placement made impressive claims for the curriculum variable as a potent intervention (Alexander and McDill, 1976; Alexander, Cook, and McDill, 1978). High school youngsters who enrolled in an academic program were found to fare much better than their non-academic counterparts on numerous criterion measures, including standardized test performance, goals for the future, and the likelihood of attending college. What made these differences especially impressive was that they were observed after adjusting for differences in the kinds of students who enroll in the various tracks. That is, they held up even after taking account of outcome differences associated with socioeconomic background, with race/ethnicity, and even with pre-high school levels of test performance.

These studies, though, appear to have been overly generous in the importance they accorded to track membership. In a more recent analysis, which is technically superior to the others, Alexander and Cook (1982) found high school tracking to be largely a conduit for differences in social background, academic competency and educational experiences that predate high school. Hence, track membership per se appears to have little impact on the sorts of school outcomes of greatest interest to the Commission on Excellence (i.e., test scores). But even this isn't the entire story, for yet other research indicates that specific patterns of high school coursework and performance may be quite important for test performance, and much more

so than simply knowing whether youth are registered as "academic track" students (Alexander and Cook, 1982; Pallas and Alexander, 1983).

There thus seems to be good reason to take seriously the Commission's interest in curriculum reform. The present analysis, accordingly, seeks to determine whether the expectations held for the Commission's "New Basics" are at all reasonable. We do so by comparing the academic accomplishments of students who did in fact pursue a program of study much like that proposed by the Commission with those of otherwise similar youngsters whose high school course selection was less "rigorous."

In assessing the "New Basics" we hope to accomplish several objectives. Our first goal is simply to determine the popularity of this curriculum among the students in our sample, whose school experiences characterize an earlier era, the mid to late sixties. Back then its pursuit was not mandated (in the sense foreseen by the Commission), and the state of education presumably was better than at present. This overview should allow us to judge the appeal (and effectiveness) of the program under somewhat more favorable circumstances.

Our second, and foremost, goal is to determine the benefit that might be realized through the New Basics for a number of cognitive outcomes, including performance on the Scholastic Aptitude Test. It comes as no surprise that the substantial decline in SAT scores from the early sixties to the present figured prominently in the Commission's compendium of disquieting trends. Thus, with the data available to us we are able to judge the core curriculum by the Commission's own standards.

We also will consider a number of subsidiary themes in this context: are the New Basics effective only as a "package", or can comparable benefits be realized through selective implementation of their several elements; must the Commission's schedule be honored faithfully, or is it almost as useful to take, say, two years of math and science rather than three; and, finally, for youngsters who have taken the core program, how does performance in it affect their test scores? Whether or not the Commission's New Basics have merit should be revealed in the answers to these questions.

DATA AND PROCEDURES:

The Growth Study Design

The data we employ are from the Educational Testing Service's Study of Academic Prediction and Growth. From 1961 to 1969, the Growth Study surveyed and tested the students from seventeen communities scattered throughout the United States who were enrolled in either a local high school or an associated feeder school. Although the selection of communities and schools was not probabilistic, the project design did attempt to be broadly encompassing. In particular, the communities selected were dispersed geographically, included small and large school systems, and differed greatly in the proportion of high school graduates continuing into college (see Hilton, 1971, for additional detail).

The Growth Study design entailed semi-annual administrations of survey and testing instruments in grades 5,7,9,11 and 12 throughout the project's duration. Hence, youngsters who stayed within these systems and kept pace with their entering

cohort can be studied as a longitudinal panel, the most extensive of which would span grades five through 12 (i.e., fifth graders in 1961, who would have been twelfth graders in 1969). Of special value in light of our present interests, the ETS recorded SAT scores for those Growth Study youngsters who sat for the test during their senior year and administered the PSAT to all those who did not. Hence, we have available measures of SAT performance for virtually the entire senior classes of the sampled schools, and not simply for those youngsters who chose themselves to take the test. This obviously avoids many of the problems of interpretation that arise when test scores only are available for self-selected students.

Also of great importance to us is the fact that the ETS was able to obtain copies of high school transcripts for the 1969 senior class in most of the communities. These transcripts were made available to us by the ETS and were coded at Johns Hopkins under the supervision of Martha Cook. The transcript data then were merged with the survey and testing data already included in the Growth Study archive. This very detailed information on students' course experiences is what enables us to examine the New Basics "after the fact." The present analysis therefore is limited to those 1969 seniors for whom transcript data were available, about 6000 students from 15 of the original 17 Growth Study communities. Details on the transcript coding and sample coverage are available in Cook and Alexander, 1980.

We also should mention that these same Growth Study data figured prominently in the Commission on Excellence's own deliberations. As background to its work, the Commission commissioned numerous "briefing" papers -- literature reviews in selected areas, interpretive stocktakings by respected scholars, and so forth. Among the more

widely circulated and publicized of these was an analysis conducted by Clifford Adelman, a Commission staff member, entitled "Devaluation, Diffusion and the College Connection: A Study of High School Transcripts, 1964-1981" (1983). As the title suggests, the study concludes that over this period the traditional academic subjects have receded in importance in the typical high school curriculum. Students now take fewer courses in these areas, and those that are taken tend to be less intensive (i.e., are more likely to be half credit courses than one credit courses or one semester courses rather than full year ones). We cannot claim that this evidence of a shift away from a traditional academic concentration is what moved the Commission to urge revamping the high school curriculum, but there can be little doubt that this report at least reinforced that sentiment.[1]

Transcript Data and the "New Basics"

In attempting to approximate the New Basics curriculum with the Growth Study transcript data, we relied as much as possible on guidance from the Commission's report and from Adelman's paper. Our goal was to be as faithful as possible to the Commission's intent, and we believe we have been reasonably successful. Still, it was inevitable that some ambiguities had to be resolved, and these, along with our general approach, are reviewed next.

In preparation for Adelman's analysis, the approximately 1000 course titles that were distinguished in the Growth Study transcript data were collapsed into 131 mutually exclusive "course" categories. The objective of this exercise was to reduce the course distinctions to a more manageable number while retaining the most essential

detail and assuring a sufficiently large case base within categories to sustain serious analysis. Some of the 131 categories included just one course title, while others subsumed several (e.g., one category includes Introductory Algebra, Algebra I, Beginning Algebra, etc.). Of the 131 categories, 18 were in the language arts area, 16 in mathematics, 20 in social studies, 11 in science, and 13 in foreign languages.[2]

Beginning with these distinctions, we next had to decide which of them should be considered part of the core curriculum. Two criteria were used as guides. Our first was that only courses receiving at least a full credit should be eligible for inclusion. This was to assure that the core reflected a serious academic concentration, rather than the "diluted and diffuse" curriculum the Commission so bemoaned (Adelman pointed specifically to the proliferation of half credit courses as a symptom of "diffusion").[3] Our second was more judgmental. We ruled out remedial courses and others which received negative characterization in one of the two reports. For example, Adelman's treatment of elective personal service courses as evidence of diffusion suggested they should not be included in the core. Thus, the credit hour requirement and the language of the Commission's report and its staff study were used jointly to determine candidates for the New Basics. The categories so selected are listed in the Appendix to this paper.

Having decided which "courses" to include in the core, we next determined who had taken enough of each to satisfy the Commission's standards. This was accomplished by counting the number of times each student had taken courses in each of the core categories from grade nine through twelve. Those who successfully completed at least

as many courses in a given subject area as the Commission mandated were credited with having completed that component of the New Basics. For example, for students to be credited with finishing the mathematics "core", they had to have passed at least three one credit non-remedial math courses. Once completion of the separate components had been determined, it was a straightforward matter to check for completion of all components. For purposes of analysis, a code of "1" is used to index completion of the core (or some component of it); a value of "0" indicates failure to do so.

Also constructed from the transcript data were measures of grade performance in the courses we selected for inclusion in the New Basics. As part of the original transcript coding, all grades were converted to a common zero through four metric (detailed procedures are described in Cook and Alexander, 1980). The present measures were calculated as simple averages of the grades received in relevant courses. Separate GPA's were computed for each of the core areas as well as an overall measure based on performance in all core courses. For youngsters who failed to complete the requirements in a particular area (or overall), the GPA is based on however many courses had been taken.

With these data on grade performance we hope to determine whether students who have undertaken the sort of program recommended by the Commission test better than other students who have done equally well in their coursework, but in a less rigorous program. This seems to us an important practical consideration. It will reveal whether doing well in the core accrues benefits beyond those that could be realized by applying oneself outside the structure of the New Basics.

There also is a second reason for wanting to include measures of grade performance in our analysis. It is reasonable to expect that youngsters who elect a more academically oriented mix of courses will tend to be better students in general and hence should be relatively high achievers. Because they are "better students," they would be expected to both get higher grades and test better, quite apart from the particulars of their course selection. Hence, controlling on GPA will allow us to take account of relevant personal differences that otherwise might be mistaken for positive effects of the core curriculum.[4]

Other Variables and Measurement Considerations

The remaining measures used in our analysis can be described in much more straightforward fashion. To take account of family background factors we include data on mother's and father's educational levels. These are measured separately and are scaled as years of school completed. We also control for race and gender differences that might enter into the processes under consideration. Both are coded as dichotomous zero/one variables. The racial distinction contrasts blacks with non-blacks. Information on the students' racial identification was obtained from a number of sources, including transcripts, other school records, and yearbooks. The other background measures were taken from questionnaires administered in the eleventh grade.

Lastly, we need describe the testing data that we use. To take account of competency differences that preceded exposure to the high school program, scores on the School and College Ability Test (SCAT; ETS, 1957) are used as control variables

throughout the analysis. These were administered in September or October of the ninth grade, which is early enough in the school year that performance could not have been much affected by curricular experiences in high school. The SCAT is comprised of quantitative and verbal subtests, which we use both separately and in combination depending upon the particular outcome being considered. According to the ETS, the SCAT is a measure of school-learned ability, designed to gauge a student's preparation for the next highest level of schooling.

As outcome measures we consider students' levels of performance on several cognitive tests. For students who sat for a regular administration of the SAT during December or January of their senior year, ETS retrieved scores from their files. All other youngsters were administered the PSAT during January and February. The PSAT is a two-hour test of verbal and quantitative skills comprised of items from previous versions of the SAT. It is psychometrically similar to the SAT, and multiplying its value by ten converts it to the SAT metric. As with the SCAT, in the analysis that follows we consider the SAT verbal and quantitative subtests both separately and in combination.

Finally, we also are able to consider two subject-specific outcomes. As part of the Growth Study testing program, the CEEB's achievement tests in American History and in English Composition also were administered, again during the senior year. Their availability will allow us to contrast the value of the New Basics in promoting more generic competencies with its payoff in these specific subject areas. The Commission's Report seems to anticipate positive spillover along these lines, as it referred specifically to declines in CEEB achievement test results in the fields of

physics and English in its review of troubling trends. In the next section we see whether the Growth Study data offers reason to think the New Basics a likely solution for these problems.

RESULTS

Completion of the Core and Its Components

We consider first the relative popularity of the New Basics among the Growth Study youngsters. The percentages completing our version of the New Basics are reported in the first two columns of the upper panel of Table 1. The figures may come as a surprise, for they indicate that few students overall undertook such a program of study. For purposes of comparison, we also report completion figures for a more recent cohort of students, 1980 high school graduates. These figures are taken from a NCES bulletin (1983) which describes patterns of core completion for youngsters in the High School and Beyond Study.[5]

--Table 1 About Here --

Considering all students, and excluding the criterion of foreign language study, just under a fifth of the sample qualified. The corresponding figure for the HSB sample is 13.5 percent, clearly smaller but perhaps not as dramatically so as might have been expected. When foreign language study is included in the package, the Growth Study and HSB figures drop to 16.4 percent and 8.4 percent respectively, a larger proportionate gap. The reason for this obviously involves differences in patterns of foreign language study. As the area-specific figures reveal, this appears to be the greatest disparity between the two periods. While these comparisons do seem to support the Commission's belief that there has been a shift away from the

traditional academic curriculum, it is perhaps surprising that the previous standard was so low. It may well be that there never has been the sort of national commitment to solid preparation in the "basics" that the Commission seeks to instill.

When we look at completion figures within high school tracks,[6] it should come as no surprise that academic students fare best. Even for them, however, the figures are not especially impressive: a bit over a third fulfill all requirements save the foreign language area; and this drops to just over thirty percent when foreign language is included. For youngsters in the other tracks, completing the New Basics is a rarity.

It will be recalled that the Commission deemed the New Basics (excluding its foreign language component) appropriate for all students and not just those in the academic program. Recall too that these data pertain to a period in American education which the Commission believed compares favorably with today's situation. It is apparent, however, that even then it was the exception rather than the rule for students to pursue the sort of program deemed by the Commission to be educationally sound and desirable. We presume that the mid- to late sixties would not be the Commission's first choice for such an appraisal (we know they would not be ours), but falling short of the ideal makes these data no less germane. It seems clear that the New Basics were not especially popular when students and schools set their own agenda independent of federal directives.

The remaining columns in the upper panel pertain to the core's constituent elements. Here too, the Growth Study figures compare favorably with those from the

HSB sample, but with some interesting fluctuations. The earlier period appears to have been most successful relative to the present in promoting foreign language and English study. On the other hand, the disparities are slightest in the math and science areas. This pattern thus fails to mirror the Commission priorities, which focus on deficiencies in coverage of the latter fields. In fact, these comparisons may actually exaggerate the contrast, since we know from Adelman's paper, among other sources, that the percentage of students enrolling in the General track has increased dramatically in recent years. This being the case, the figures in Table 1 likely compare the experiences of a largely Academic enrollment with those of a largely General track enrollment. Unfortunately, we do not have the HSB figures separately by track membership, so the matter cannot be pursued further at present.[7] In any event, the differences are not especially large in the math and science areas, and probably are smaller overall than would have been expected. Moreover, it is the shortfall in math and science that apparently accounts for the generally low levels of overall core completion in the Growth Study data. Completion of the requirements in the English and Social Studies areas are reasonably high in all tracks, while the figures drop off substantially in the math and science fields, and especially so among non-academic students.

The lower panel of Table 1 monitors partial progress in completing the core curriculum. The entries are percentages "on schedule" through the eleventh grade. They indicate how many students could complete a particular requirement by taking an appropriate course sequence in the twelfth grade. For example, a student would be considered "on schedule" in math if he or she had completed two years through the eleventh grade, leaving only one year to be done in the twelfth.

The pattern is clear. Excluding foreign language, a majority of students in all tracks remain eligible to complete the core. For academic students, the figures are especially high. Their lowest "completion rate" through the eleventh grade is seventy-five percent, this being for the science area. In fact, just under sixty percent of the academic youngsters have done all that is required of them through their junior year, and thus could finish the entire core in their senior year. As we saw above, though, only about a third actually do so. If the Commission is correct as to the value of its New Basics, then the senior year would seem to be a prime target for reform. On the other hand, if the Commission is mistaken, or if partial completion of the core is almost as good as full completion, then there would seem little reason to tamper with the time-honored "senior slump." What is at issue here, of course, is the question of efficacy, and the rest of the analysis is devoted to seeking its answer.

The New Basics and Test Performance

In Table 2 we consider whether youngsters who have completed various elements of the New Basics perform better on relevant standardized tests than those who have not. Table 2 actually subsumes several issues, and because of this its layout probably requires some clarification.

To begin with, several regression analyses for each test outcome are reported; however, we report only selected results. The omitted details involve the effects of control variables, whose individual coefficients are not of immediate interest. In performing this sort of assessment it is essential that we take account of student

differences that might influence both patterns of course selection and test performance. The most obvious concern in this regard would be differences of competency and accomplishment that predate high school. Since our intent is to isolate benefits that follow from exposure to the New Basics, we would not want to ignore the fact that "better" students are likely to take more challenging courses.

The analysis in Table 2 takes account of this by including as a predictor of each senior year outcome a measure of test performance in a relevant domain obtained either prior to high school or very early in high school (i.e., the Fall of the ninth grade). So, for example, in considering performance on the quantitative section of the SAT (SAT-M in our tables), ninth grade performance on the SCAT-Q is used to accomplish the necessary adjustment. For the SAT composite (i.e., SAT-T), the SCAT composite is used, and so forth.

In the ideal situation, the "input" control would be a prior administration of the outcome test, but this is not possible with the data available to us. In so far as SAT performance is concerned, the SCAT battery at least taps the same generic competencies and is, we have argued elsewhere, quite serviceable for this sort of application (Pallas and Alexander, 1983). For the CEEB achievement tests, though, more criterion-specific input controls would be preferable. Unfortunately, such measures are not available and we must rely again on the broader verbal and quantitative assessments afforded by the SCAT battery. Although we suspect this is not too serious, we unfortunately are unable to evaluate its consequences in the analysis. Hence, we will have to be mindful of this slippage in reflecting upon our results. The analysis also controls for the influences of student background

characteristics (i.e., race, gender and SES level) and for grade performance while in high school. It is arguable, though, whether grades should be accorded priority over curriculum in predicting patterns of performance on standardized tests. Using GPA as a control variable in the analysis thus makes for a rather conservative test of the effectiveness of the New Basics curriculum. The reader should be mindful of this in reading through the results presented in Table 2.[8]. The coefficients for these additional controls also are not reported.

-- Table 2 About Here --

The usefulness of the New Basics is evaluated in Table 2 by adding the various core completion codes to regression equations which already include these measures of students' sociodemographic characteristics (i.e., race, gender, and parents' educational levels), of prior test performance, and of grade performance. The table entries include the variance accounted for in our several outcomes as predictors are added and the regression coefficients estimated for the core curriculum measures.

Consider, for example, the first row of results in Table 2, which pertains to performance on the verbal portion of the SAT. The R^2 of .688 is the variance explained when SAT-V is predicted from the [illegible] variables listed in the table legend. This is a rather substantial figure, as are those obtained for all our baseline equations. It is due in large measure to the importance of grade performance and of the ninth grade measure of test performance, both of which are quite potent throughout. With the effects of these barometers of pre-high school and in-high school competency and accomplishment controlled, the remaining equations in Table 2 constitute a stringent test of the power of the New Basics. The R^2 in the second row is the variance accounted for when the appropriate core curriculum codes are added

to the analysis. In most instances two core elements were judged relevant to the outcome, and these are evaluated together. The R^2 in the third row reports the variance that is explained when the code indicating completion of all core requirements is added to the equation.[9] Comparing the results obtained at this stage with those for the area-specific components of the core will reveal the value of the New Basics as a "package." That is, we can see whether the core as an integrated curriculum adds anything to the prediction of test performance over the individual elements that seem most relevant to particular outcome domains.

For the SAT-V, we evaluated the consequences of taking four years of English and two years of foreign language in high school, as well as the entire curriculum. As can be seen from comparing the second and third R^2 figures with the first, these predictors added only about half a percent to the equation's explained variance.[10] Additionally, the coefficient for the English core measure was negligible and non-significant. However, those for the foreign language component of the core (second equation) and for completion of the New Basics altogether (third equation) both are significant.

The regression coefficients indicate that students who complete the foreign language requirement average about fifteen points better on the SAT-V than those who do not. In the third equation, which includes both the foreign language code and the core completion code, the foreign language effect is a bit smaller (9.37 vs 14.12), due to the correlation among core codes, but both are significant. Together they suggest an advantage of about 25 points for youngsters who have completed all the requirements of the New Basics. This is hardly negligible, being a goodly fraction of

the 37 point decline in SAT-V performance between 1967 and 1977 observed by the CEEB among high school seniors (1977).

Whether these "effects" on performance actually have anything to do with the curricula undertaken by these youngsters cannot be proven conclusively, but we can rule out some other reasonable explanations. We already have mentioned that the results in Table 2 are adjusted for differences in levels of verbal performance at high school entry and for grade performance while in school, so we can discount the possibility that this finding reflects simply that good students take more rigorous coursework and score better on tests.

Another possibility is that youngsters who take foreign languages in high school or complete the core might be more highly motivated or otherwise academically oriented. This doesn't seem to be the explanation, either. We redid the analysis in Table 2 with additional controls (again from the ninth grade) that presumably would get at this: the students' intentions for college, the high school curricula they expect to pursue, and the amount of time they typically spend on homework. The results changed very little. For example, the foreign language coefficient from the second equation dropped only to 11.2 (from its reported level of 14.1).[11] Although we would still want to be cautious in our claims, our data do seem to indicate that taking two years of foreign language study in high school pays off in terms of improved performance on the SAT-V, while completing the core altogether reaps additional benefit. This presumably is what the Commission suspected. Conventional wisdom holds that foreign language study should be beneficial in at least two respects: first, in the transfer from foreign langauge to English language skills;

and second, in the discipline of mind that is cultivated in acquiring facility in a second language. Our results certainly are consistent with these ideas. Moreover, the benefit that follows from completing the entire core suggests there is merit in thinking of the New Basics as an integrated program of study whose value is not fully realized simply by electing those elements that relate most immediately to particular outcomes. This too would seem consistent with the Commission's thinking.

We now consider how the core curriculum fares in enhancing performance on our other tests. Having already reviewed our procedures in detail, we should be able to work our way through the remainder of Table 2 with far greater economy of prose.

Results for the quantitative subtest of the SAT (SAT-M) are displayed next in Table 2. Here we have considered both the mathematics and the science components of the core curriculum as possibly being relevant, and both in fact appear to be so. Together they add about three percent to the variance accounted for by the baseline equation (.625 vs .654) and their regression coefficients are rather sizable. Youngsters who took at least three years of high school math score on the average almost 40 points higher on the SAT-M than those who took fewer math courses, and three years of science contributes another 22 points. Effects of this magnitude really are quite striking, and, again, additional controls for motivational factors make very little difference in them. To put these figures in perspective, the average decline in SAT-M performance among high school seniors was "only" 22 points between 1967 and 1977 (from 492 to 470-- CEEB, 1977).

Finally, when the core completion indicator is added to the analysis, the math and science coefficients both drop a bit, reflecting the "part-whole" character of these various measures. Both remain significant, however, and the math coefficient still is rather sizable. Importantly, completing all the core requirements again appears to boost performance over the levels predicted from those of its components which seemingly have the most immediate relevance for quantitative outcomes. Because of the collinearity among predictors, we would not want to place too much faith in the 28 point figure estimated for the core completion measure; it nevertheless does appear that fulfilling the New Basics in their entirety is useful here too.

The next set of results in Table 2 pertains to the SAT composite score (i.e., SAT-T). Here we evaluate the entire core as a package, although again two possibilities are entertained. The first row excludes foreign language study from the core, while the second includes it. As can be seen, however, the results are not all that different for the two. Both constructions of the core confer an edge of over fifty points.

With or without foreign language study, then, the New Basics seem to reap a handsome return in terms of overall levels of performance on the SAT. For the CEEB achievement tests, though, the gains are not nearly so great. These results are reported at the bottom of Table 2. The social studies component of the core produces no benefit on the American History Achievement Test, and likewise the English component of the core for the English Composition Achievement Test. However, we do observe a noteworthy positive effect on the English Composition test for foreign language study, amounting to just over 18 points in equation 2 and about 14 points in

equation 3. Finally, completing all the core requirements realizes an additional return of about 12 points on the English test.

All in all, then, the New Basics seem to be most useful in furthering generic competencies.[12] This does not strike us as at all unreasonable. When it comes to performance in subject-specific areas, we probably should focus our attention on courses that are targeted for those areas. This certainly seems commonsensical enough, yet the Commission's agenda was cast in much more general terms and we have tried to remain faithful to it. In light of the results obtained for the SAT, however, we would be very much surprised if such focused programs of study would not also pay off in corresponding areas of achievement.

The next issue we consider is whether the elements of the New Basics must be completed in full for them to be beneficial. We do this by looking to see what is added to the prediction of test outcomes by completion of the last course in a sequence. Specifically, we first evaluate the consequences of being "on schedule" through the eleventh grade and then add to the analysis a measure which indicates whether or not the last requirement was completed during the twelfth grade.

The results of this assessment are reported in Table 3. The first row of each pair of equations adds the appropriate eleventh grade code to the set of background controls. The second row then adds the corresponding twelfth grade code. We are interested mainly in whether completing the "Nth" course adds anything to what is

gained by completing N-1 courses in a particular area (e.g., the third year of math and science, contrasted with the first two).

-- Table 3 About Here --

The implications of Table 3 seem quite clear: that extra year matters a great deal. In fact, in several instances most of the value of the New Basics comes from completing the sequence's final year.

Consider first the results for the SAT-M. Students who have completed the math program through the eleventh grade (i.e., have completed two years of study) score about 23 points better on the SAT-M than youngsters who fall short of this standard (the coefficient for two years of science is non-significant in this instance). This figure hardly is negligible, but it is far outstripped by the increments in test score performance associated with completing the final years of both math and science study. Finishing the math component of the core contributes about 40 points to the SAT-M, while the final year of science adds another 29 points.[13] The latter effect is especially striking, in that science study through the eleventh grade was entirely inconsequential.

Although the other comparisons are not quite so dramatic, a similar pattern is observed for the SAT composite and the English Composition achievement test. In both instances the "value-added" from completing the core far exceeds that from partial fulfillment of the requirements. In fact, even the results for the SAT-V conform to this pattern, although the margin of advantage from completing the core is not great. It is only for the History Achievement test that we see little indication of positive spillover from finishing the entire package.[14] It seems clear from Table 3, then,

that the agenda recommended by the Commission does have merit, but that it must be seen through to its completion for this to be fully realized. In this respect too the Commission's judgment is sustained.

Finally, the last issue we consider in evaluating the New Basics involves the importance of doing well in this curriculum. It seems reasonable to expect that taking the core should be most useful (or perhaps only useful) for youngsters who actually have mastered its content. If grades can be taken as indicative of subject matter mastery, which they presumably signify at least to some extent, then we should expect students who do well in the core curriculum to benefit most from the experience. Mediocre performance, whether in or out of the core, should have little bearing on test performance. This reasoning leads us to expect that the effect of grades on test scores should differ for students who have and have not completed the New Basics, and that the "payoff" from grades should be greatest for core completers with relatively high GPA's. In fact, this turns out to be precisely the case.

We first checked to see whether there was any indication of such an interaction in the Growth Study data. This was done by adding to our equations a term (or terms) constructed as the product of the GPA variable and the domain-specific core completion indicators relevant to the particular outcomes. The increments to explained variance associated with these interaction terms ranged from .001 to .012. For all outcomes save the History test at least one such term was statistically significant at the .05 level.

-- Table 4 About Here --

In order to evaluate the practical implications of these interactions, we computed predicted test scores at different GPA levels for those students who completed the core requirements in pertinent areas and compared those with the scores predicted for students who did not complete those requirements. The results of these calculations are reported in Table 4 as the expected difference in test scores at different GPA levels for the two groups of youngsters, with all other factors in our equations held constant.[15]

At relatively low GPA levels, it matters little whether or not a student completes the core requirements. For "B" or better students, however, the differences are pronounced in all areas except History. The practical implications of this pattern are quite profound, if not especially surprising. We can't expect the New Basics to accomplish a great deal if they simply obligate students to "do their time" in one mix of courses rather than another. Mediocre performance simply doesn't count for much, and mediocrity in the New Basics is no exception. On the other hand, when students are stretched to high levels of performance in the core curriculum, we see substantial benefits. This implies, among other things, the need for first rate instruction and for exacting standards if curriculum reform is to realize its potential. To the Commission's credit, this too is recognized in its report.

DISCUSSION

When the report of Secretary Bell's Commission on Excellence in Education was first released it was read by many as a report card on public education. It hardly needs to be said that the judgment rendered by the Commission was not too flattering. In like fashion, the present inquiry can be read as a report card on the Commission's performance. To anticipate things just a bit, its recommendations for curriculum reform appear to deserve high marks. In other respects, though, we are inclined to be less generous. Let us review the basis for our positive assessment first.

The Commission's central policy recommendation is embodied in its proposed New Basics. Its other proposals are intended to extract the maximum benefit from this curriculum, and in that sense are subsidiary to it. Although the New Basics' guidelines are quite general, the Commission nevertheless expected that substantial good would come from them. While the Commission's interest in curriculum reform is perhaps not too surprising, the self-assurance with which it advanced the New Basics well might have been questioned.

It is, of course, central to their mandate that such bodies should tell us how to do things better. And, as political entities, we should not expect their deliberations to be couched in the cautious and qualified style characteristic of, say, scholarly discourse. At the same time, however, it is rare that the mere pronouncements of such a Commission would trigger far-flung changes in institutional practice. This can, and does, happen, though, when it is schools that are under

scrutiny. Because of this, the potential for mischief and/or harm is especially great when educational matters are at issue.

The Commission's recommendations certainly have commanded great attention. In many state legislatures and school districts momentum is building to reform the school curriculum and to alter the school calendar. That such proposals are even entertained at a time of near fiscal crisis in many localities gives witness both to the high valuation of education in the American ethos and to the perceived gravity of the present situation.

The Commission's New Basics thus has struck a responsive chord. Because of this, and because too of our own belief in the importance of curriculum organization for what is learned in school (and for the value of schooling in later life), we are pleased that the Commission appears not to have lead us astray.

In futhering generic skills in the verbal and quantitative domains, the proposed New Basics passes every test, usually with flying colors. The test scores of students who complete the New Basics are considerably higher, on the average, than of those who do not. These advantages hold up, moreover, even after adjusting for differences in test performance at high school entry, for grade performance while in high school, and for several factors that should tap differences in students' academic motivation and interest in school. Some of these differences are quite large, far exceeding, for example, the drop in SAT scores over the last twenty years or so, which itself has been cause for much consternation.

We recognize, of course, that there is a tremendous difference between the present inquiry, which considers patterns of performance among the members of a single cohort, and the trend in aggregate test performance across successive cohorts. For many reasons, we would not want to place too much faith in the exact numeric estimates turned up in our analysis. Despite these quite important qualifications, we believe our analysis does provide strong support for the notion that an appropriately conceived program of study will help students to perform better on tests such as the SAT. We don't know whether the New Basics is optimal in this respect, but it certainly seems to be effective. We share the Commission's belief that the skills tapped by such tests are quite important in the modern era. We thus think it proper to conclude, as the Commission held, that the New Basics, if introduced broadly and supported properly, could accomplish considerable good.

Our analysis also sustains several other aspects of the Commission's judgment. We find, for example, some evidence that the proposed curriculum is most beneficial when pursued in its entirety. Students who complete all the requirements of the New Basics perform better than those who complete only courses in the area or areas that are most subject-relevant to a particular test. Even more impressive, though, is the cost incurred in skipping the last course in a sequence. The Commission's curriculum thus seems to hang together reasonably well as a "package", and seems to be on target as well in the level of commitment it requires of students.

We also find, not surprisingly, that youngsters who do well in school tend also to do well on tests. Nothing too startling in this revelation, since assessments in both contexts place a premium on the same sorts of skills. What is important, though,

is our evidence that the benefits of the core curriculum are realized only by youngsters who do well in it. This we take as further confirmation that mastery of the New Basics promotes the kinds of skills that are highly valued on cognitive tests, but it also places an additional burden on those who advocate such reform. The problem is not simply one of introducing a series of required courses and seeing to it that most youngsters suffer through them. Would that it were so simple. Unfortunately, the evidence is clear that exposure to courses alone is not sufficient. Students must also master the content of these courses, and we know from sorry experience that too many of our schools are bottom-heavy with low achievers and under achievers. This, after all, is what the test scores tell us. What we need to know, therefore, is how to implement the core curriculum so that its potential is fully realized. The Commission did comment on such matters as the allocation of time and instructional effectiveness, but its contributions along these lines were far from an operational agenda. These matters, it now is obvious, require far greater attention than they have received thus far.

Finally, we also have reason to believe that the New Basics would be useful for all students and not just for those in a college preparatory program. This too is as anticipated by the Commission, although our evidence on this point is not as secure as we would like because of the small number of non-academic students who actually completed the core requirements. This aside, we think the above review of our central findings constitutes a rather impressive confirmation of the Commission's wisdom. Our data, of course, pertain to the experiences of high school students during the mid to late sixties. While it is possible, we suppose, that things might look different were more recent data available for study, we know of no reason to expect this a priori.

We certainly would encourage further research along these lines as suitable data become available,[15] but for now ours is the best evidence on the issue, and it is encouraging.

This, we think, is good news. There is, however, another side of the story that deserves comment. Pupils typically are not permitted to define the terms of their own evaluation, and neither should the Commission be so indulged. We are sincere in our belief that implementing the Commission's recommendations could accomplish good; we are equally sincere, however, in our disappointment with the document that sets forth those recommendations.

Our empirical assessment of the Commission's ideas focused narrowly on its central proposal. Our data are well suited for this purpose and it is important that such prescriptions be carefully scrutinized. Assessment of what the Commission actually has accomplished, though, need not be, indeed should not be, so narrowly cast.

The Commission's high mark in identifying a curriculum that likely would boost test scores must be balanced against its almost complete neglect of other considerations. No doubt this is due in part to the constraints of its charter, but this makes the narrowness of its purview no less lamentable and the true value of its proposals no less difficult to judge. The Commission's preoccupation with cognitive development and patterns of test performance is its singular failing as well as its singular accomplishment; it leaves the report vulnerable on at least two counts.

As a report card on American education, the Commission gives short shrift to areas of evaluation where there are indications that our educational system is performing well. We have in mind here mainly, but not exclusively, our national commitment to matters of educational equity. While progress has been painfully slow, the movement toward an integrated, pluralistic educational system and the lowering of barriers to postsecondary access seem to us to be quite remarkable accomplishments. The report is silent on such matters. And there are other expectations we hold for our school systems where the quality of performance is not so clear-cut -- such things as promoting good citizenship, preparing youngsters for jobs, honing critical skills, fostering creativity, and the like. Our point is that the Commission provides no basis for balancing the good against the bad, and hence fails to inform an overall assessment of how well we are doing.

A similar problem arises in consideration of the Commission's New Basics. There can be little doubt that developing cognitive skills is an important educational goal; but it is only one of many goals we hold for our schools. Would we want to impose the New Basics at the sacrifice of solid vocational training for those youngsters whose futures will not require high levels of scientific and quantitative facility, at the sacrifice of the arts and humanities, or, for that matter, at the sacrifice of variety and diversity in educational options? While it is not obvious that any of these difficult choices are forced upon us by the New Basics, neither is it clear that they are not. Based on the Commission's report we simply are not in a position to know.

What the Commission's report lacks is an appreciation of the many diverse, and perhaps conflicting, demands made of our educational system. In the absence of such,

it is impossible to judge precisely where the New Basics fit in and whether their implementation would be the best use of the energies and resources that would be required.

It sometimes seems as though the half-life of an educational issue's command of center stage is a blink of the eye. It was not too long ago, it should be recalled, that concerns about narrow "vocationalism" were commonplace; in some circles it even now is held that "overschooling" and not "underschooling" is the actual problem; the issue of moral or value socialization seems always to be troublesome; and, as discussed above, we swing periodically between "equity" and "quality" as the foremost concern. In light of such volatility, a single-issue report card and a single-issue agenda for the future has to be judged a disappointment. It is especially unfortunate at this time of heightened public concern that the Commission failed to seize the opportunity for a thorough review of current educational developments and to look creatively and imaginatively beyond the horizon. We believe the report has accomplished some good; unfortunately, it might have accomplished a good deal more.

FOOTNOTES

1. In Adelman's analysis of curriculum trends, data from the New Youth Cohort of the National Longitudinal Study of Labor Market Experience were used to describe more current patterns. Patricia Seitz, a research scientist at Ohio State's Center for Human Resource Research, implemented Adelman's analysis on the Parnes data; we provided the corresponding analysis on the ETS data. Both efforts were undertaken under Adelman's direction, who is due full credit for the intellectual merit of this project. The New Youth Cohort, unfortunately, does not include the testing data that would be required to pursue further this comparison across the decades.

2. Although computer science classes were occasionally offered in high schools in the 1960's, enrollments were too sparse in our data for us to evaluate computer science courses as part of the New Basics.

3. It turns out that the vast majority of eligible courses in our data were at least one credit courses. To avoid the risk of neglecting upper-level one semester elective courses that might actually be efficacious, we relaxed the credit hour requirement and developed an alternative construction of the "New Basics" based only on subject-matter appropriateness. The pattern of results was highly consistent for both constructions of the New Basics. Although it matters little, we report results using the one credit requirement, since this is more in line with the Commission's interest.

4. We also make use of ninth grade testing data to take account of competency differences that predate high school. These are discussed below.

5. Several cautions are in order here. We cannot determine from the NCES document whether our coding procedures are sufficiently similar to allow for direct comparisons between the two sets of figures. Sample coverage also is quite different. Hence, we should not place much confidence in the precise differences between the two sets of figures. Nevertheless, they are the only data available at present, and they at least suggest how things might have changed from then (i.e., the mid to late sixties) to now.

6. Information on track membership was self-reported from the eleventh grade questionnaire. Students who skipped over the track item or said they were undecided are included in the "NA" (no answer) group.

7. We should mention, however, that the New Basics (and our coding of them) is not especially discriminating as to the level of study that is required. Hence, these similar figures could obscure important differences in the particular mixes of courses that were most commonplace in the two periods. This issue, as well as numerous others, will have to be deferred until the HSB data are released for general analysis.

8. When GPA is not controlled, the core effects generally are about half again as large as those reported.

9. For the domain-specific outcomes, the foreign language version of the core was used throughout.

10. Recall that ninth grade SCAT-V performance is included in the set of control variables, so that this increase in explained variance is independent of differences in verbal facility at high school entry as well as of grades while in high school.

11. Incidentally, the variance explained with the additional measures in the equation rises to .704, so they themselves do seem to matter. They do not, though, eliminate the importance of foreign language study or of the core completion code. We have evaluated the effects of these additional controls in all of the analyses we report. In general, they have only minor implications for our conclusions regarding the New Basics, and because of this they are not presented in our tables.

12. We also have performed the same analysis reported in Table 2 separately for the various high school tracks. Since the results of this analysis are so similar in implication to those just discussed, we do not report them here. The parameter estimates do fluctuate a good deal, but the number of students actually completing the core is quite small in all tracks but the academic. Hence, such instability is not surprising. More significantly, the same general pattern of influence is apparent in all the comparisons, suggesting that the New Basics would be useful throughout the comprehensive high school. From these data, there is no reason to think it suitable only for college-bound youngsters. This too is consistent with the Commission's expectations.

13. In this equation, as in the others, we see large fluctuations and some sign reversals in the coefficients for the core codes through the eleventh grade when the twelfth grade measures are added to the equation. This results from the rather high correlations among the various indicators of core completion.

14. In this instance, the small positive effect for the core completion measure is largely offset by the negative coefficient for the eleventh grade core code.

15. In these calculations, separate GPA's are computed for each of the core domains. Hence, GPA's reflect grades in the core courses, regardless of whether one has completed all requirements. We derived the figures in Table 4 by evaluating the estimated core completion and interaction coefficients with the values representing core completion at a specified GPA level. A similar calculation was performed for these coefficients with values representing no core completion, but the same level of GPA performance. We then subtracted the latter value from the former to derive the difference in test scores at specified GPA levels.

16. The transcript data collected as part of the High School and Beyond project (NCES, 1983) should be a valuable resource in this respect. They should be in the public domain shortly, and we look forward to seeing exactly how contemporary curriculum patterns compare to those observed in the Growth Study data.

Table 1

Percentage of Students Completing the New Basics Core Requirements Overall and in Different Areas

Through the 12th Grade

Track	Overall	Overall + Foreign Language	English	Social Studies	Math	Science	Foreign Language	N
TOTAL	19.5% (13.5%)[1]	16.4% (8.4%)	79.9% (58.6%)	78.5% (65.4%)	49.7% (46.2%)	36.2% (30.4%)	51.3% (33.2%)	5,980 (12,116)
ACADEMIC	34.2	30.8	87.9	84.5	70.9	53.0	81.2	2,920
GENERAL	7.5	3.3	73.0	82.5	22.9	24.2	21.4	719
VOC/COMM	3.3	1.2	77.7	65.5	26.3	16.9	20.0	1,528
NA[2]	7.6	4.6	61.1	78.0	40.8	22.4	29.3	813

Through the 11th Grade

Track	Overall	Overall + Foreign Language	English	Social Studies	Math	Science	Foreign Language	N
TOTAL	49.3%	36.2%	88.4%	87.4%	79.9%	69.1%	64.4%	5,980
ACADEMIC	59.7	55.4	92.8	88.9	94.1	75.5	89.9	2,920
GENERAL	29.2	14.9	82.1	84.7	56.5	58.4	37.6	719
VOC/COMM	44.3	18.5	89.2	88.2	65.8	61.8	38.2	1,528
NA	39.4	19.6	77.1	82.7	75.8	68.9	45.9	813

[1] Figures in parentheses are for the High School and Beyond Sample of 1980 graduates, reported in NCES (1983).

[2] The "No Answer" group consists of students for whom track membership information was unavailable.

Table 2

Core Effects on Test Outcomes

	Core Area(s)	Total Core[2]		R^2
SAT-V				
Baseline[1]				.688
	[English]	[Foreign]		
(1)	-1.057	14.120*		.690
	(-.003)[+]	(.060)		
(2)	-3.290	9.368*	16.513*	.692
	(-.010)	(.040)	(.056)	
SAT-M				
Baseline				.625
	[Math]	[Science]		
(1)	39.719*	21.648*		.654
	(.156)	(.084)		
(2)	33.870*	10.788*	28.111*	.659
	(.133)	(.042)	(.088)	
SAT-T				
Baseline				.73[illegible]
			[No Foreign]	
(1)			52.935*	.743
			(.098)	
(2)			[With Foreign]	
			58.892*	.744
			(.104)	
English Ach				
Baseline				.646
	[English]	[Foreign]		
(1)	-3.066	18.043*		.650
	(-.010)	(.082)		
(2)	-4.874	14.416*	12.364	.652
	(-.016)	(.065)	(.045)	
History Ach				
Baseline				.601
	[Social Studies]			
(1)	-2.923			.601
	(-.012)			
(2)	-4.921		7.982*	.601
	(-.020)		(.031)	

(Continued)

Notes to Table 2

Standardized coefficients are in parentheses.

[1]Predictor variables included in the baseline equations are: Mother's Education, Father's Education; Race; Gender; SCAT Total or Subtest Scores from the ninth grade; and GPA's in the areas at issue.

[2]For all outcomes save the SAT-T, the total core includes the foreign language component. For the SAT composite, we evaluate the core with and without the foreign language area.

* Coefficient equal to or greater than twice its standard error.

Table 3

Estimates of Additional Benefit from Completing the Final Course in the Core Areas

	Core Areas/Grade Eleven		Core Areas/Grade Twelve		R^2
SAT-V[1]	[English]	[Foreign]			
(1)	2.965	10.264*			.689
	(.007)+	(.041)			
			[English]	[Foreign]	
(2)	6.261	1.299	-4.001	13.406*	.690
	(.015)	(.005)	(-.012)	(.057)	
SAT-M	[Math]	[Science]			
(1)	22.887*	-2.821			.629
	(.068)	(-.010)			
			[Math]	[Science]	
(2)	3.706	-18.748*	39.619*	29.073*	.657
	(.011)	(-.064)	(.155)	(.113)	
SAT-T	[Total Core][2]				
(1)	28.556*				.738
	(.062)				
			[Total Core]		
(2)	5.703		55.368*		.744
	(.012)		(.097)		
English Ach.	[English]	[Foreign]			
(1)	-1.811	8.140*			.647
	(-.005)	(.035)			
			[English]	[Foreign]	
	.967	-7.205*	-3.208	22.685*	.650
	(.002)	(-.031)	(-.011)	(.102)	
History Ach.	[Social Studies]				
(1)	-18.146*				.604
	(-.059)				
			[Social Studies]		
	-26.023*		10.166*		.605
	(-.084)		(.042)		

[1] In addition to the core areas indicated, the prediction equations included the following variables: Mother's Education; Father's Education; Race; Gender; SCAT Total or Subtest Scores from the ninth grade; and GPA's in the areas at issue.

[2] In these evaluations, the Total Core includes the foreign language component.

+ Standardized coefficients in parentheses.

* Coefficient greater than or equal to twice its standard error.

Table 4

Differences in Predicted Levels of Test Performance, Comparing Students Who Did and Did Not Complete All Core Requirements[1] at Various GPA Levels.

	GPA			
	2.0	2.4	3.0	3.5
Test Outcomes				
SAT-V	-5.40	4.31	18.90	31.05
SAT-M	-11.00	9.47	40.19	63.78
History Ach.	-1.69	.23	3.10	5.51
English Ach.	-9.85	7.46	33.42	55.06

[1] The construction of the core used here includes the foreign language component.

APPENDIX

Course Categories Used to Construct the New Basics Core Curriculum

English

English 1
English 2
English 3
English 4
Advanced Writing (includes journalism)
Advanced Reading (includes speed-reading)
Advanced English
Literature: Genre, Period
Literature: Special Topic

Mathematics

Math 1
Math 2
Math 3
Math 4
Geometry 1
Geometry: Other (Solid, Applied, etc.)
Algebra 1
Intermediate Algebra
Trigonometry
Calculus
Advanced Mathematics
Computer Science
Applied Mathematics
Business Mathematics
Mathematics not elsewhere classified

Sciences

General Science
Physical Science
Biology 1
Advanced Biology (or Biology 2)
Chemistry 1
Advanced Chemistry (or Chemistry 2)
Physics 1
Advanced Physics
Environmental Science
Geology
Science not elsewhere classified

Social Studies

Social Studies
Economics
U.S. Government (or "Civics")
State/Local Government/History
Western Civilization/History
Non-Western Civilization/History
Ancient/Medieval History
20th Century History (includes Current Events)
U.S. History 1
U.S. History 2
Law
Political Science
History not elsewhere classified

Foreign Language

French 1
French 2
French 3+ (French 3, French 4, Advanced French, etc.)
Spanish 1
Spanish 2
Spanish 3+ (Spanish 3, Spanish 4, Advanced Spanish, etc.)
German 1
German 2
German 3+ (German 3, German 4, Advanced German, etc.)
Latin 1
Latin 2+ (Latin 2, Latin 3, Latin 4, etc.)
Other Languages (all levels)
Foreign Languages not elsewhere classified (e.g., Language and Culture)

REFERENCES

Adelman, C.

1983 "Devaluation, diffusion and the college connection: a study of high school transcripts, 1964-1981." Report prepared for The National Commission on Excellence in Education.

Alexander, K.L. and M.A. Cook

1982 "Curricula and coursework: surprise ending to a familiar story," American Sociological Review 47: 626-40.

Alexander, K.L., M.A. Cook and E.L. McDill

1978 "Curriculum tracking and educational stratification," American Sociological Review 43: 47-66.

Alexander, K.L. and E.L. McDill

1976 "Selection and allocation within schools: some causes and consequences of curriculum placement," American Sociological Review 41: 963-80.

Boyer, E.L.

1983 High School: A Report on Secondary Education in America. Washington, D.C.: Carnegie Foundation.

College Entrance Examination Board, Advisory Panel on the Scholastic Aptitude Test Score Decline

1977 On Further Examination. New York: College Entrance Examination Board.

College Entrance Examination Board

1983 "What students need to know and be able to do." New York: The College Board.

Cook, M.A. and K.L. Alexander

1980 Curriculum and Coursework. Final Report, Grant No. NIE-G-0013. The National Institute of Education.

Educational Testing Service

1957 Cooperative School and College Ability Tests: Technical Report. Princeton: Cooperative Test Division, Educational Testing Service.

Hilton, T.L.

1971 A Study of Intellectual Growth and Vocational Development. Final Report (Project No. 6-1830; Grant No. OEG-1-6-061830-0650) to U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Research. Princeton: Educational Testing Service.

National Center for Education Statistics

1983 How Well do High School Graduates of Today Meet the Curriculum Standards of the National Commission on Excellence? Washington, D.C.: U.S. Department of Education.

National Commission on Excellence in Education

1983 A Nation At Risk: The Imperative For Educational Reform. Washington, D.C.: U.S. Department of Education.

Pallas, A.M. and K.L. Alexander

1983 "Sex differences in quantitative SAT performance: new evidence on the differential coursework hypothesis." American Educational Research Journal 20: 165-82.